New Hampshire Retirement System

Employer Reporting System (ERS)
Data Specification Manual

Version 1.5

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1. Purpose of the Data Specification Manual

The Employer Reporting System (ERS) Data Specification Manual is to be used as a guide in developing the necessary procedures and infrastructure at NHRS member agencies in order to submit wage and contribution reports electronically. The given file specifications should be followed to comply with the physical reporting requirements of the ERS.

This manual can be used to understand how to maximize your agencies' capabilities with the new ERS and assist NHRS in providing improved services to your employees.   This manual provides agencies with the data fields required for reporting, the required format and validation rules.

2. Introduction to Wage and Contribution Reporting

Employee information is reported to the New Hampshire Retirement System through Wage and Contribution Reports. The reports include wages and related information, as well as member demographic data.

The new Wage and Contribution Report, as presented in this manual, requires that more detailed information be reported to NHRS than in the past. Reporting this additional information will reduce telephone calls from the NHRS to you in order to determine such things as unaccounted for time, leave time, etc.

One of the biggest benefits of the ERS is the increased number of methods available for reporting your wage and contribution data. This manual provides information required to develop and submit an electronic file that contains data extracted directly from your payroll or human resources system. An alternative method, not included in this manual, is submitting via a web-based form.

3. New Wage and Contribution Reporting Formats

3.1 Key Differences in Old and New Wage and Contribution Formats

While some similarities exist, the new filing format (outlined herein) is fundamentally different from the previous version. The biggest differences are as follows:

	Old Format	ERS Format (new)
Data Fields	9 header[1], 7 detail[2]	11 header (batch), 47 detail
File Structure	ASCII	XML
Validations	None	Employer tool, pre import

3.1.1 Data Fields

Prior to using the ERS, only 7 detail fields and 9 header record fields were required for electronic filing by the employers to the NHRS. The data file was provided in ASCII, comma delimited format. The file contained one header record consisting of summary information and one detail record for each member social security number.

The old filing format record structure is as follows:

Header Record

Field	Type	Length	Comments
o Reporting Month	Char	8	MM/DD/YY
o Fund	Char	2	T1,T2,F1,F2 etc...
o Account	Char	6	(eg: T12345)
o Total Wages	Num	12	9 digits, decimal, 2 digits
o Employer Contributions	Num	12	9 digits, decimal, 2 digits
o Member Contributions	Num	12	9 digits, decimal, 2 digits
o Administrative Assessment	Num	12	9 digits, decimal, 2 digits
o Accrued Liability	Num	12	9 digits, decimal, 2 digits
o Check Amount Applied	Num	12	9 digits, decimal, 2 digits

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[1] A *header record* in this case is defined as the first line of the ASCII file. It contains summary information for the detail section.

[2] The *detail records* are the records below the header record, representing each member record in the file.

<div align="center">Detail Records</div>

Field	Type	Length	Comments
o SSN	Char	9	
o Wages	Num	10	7 digits, decimal, 2 digits
o Contribution	Num	10	7 digits, decimal, 2 digits
o Job Share (for Teachers only)	Char	2	Blank or "JS"
o Last Name	Char	15	
o First Name	Char	15	
o Middle Name	Char	10	

Refer to Section 3.2 for a list and definition of the fields in the new ERS layout.

3.1.2 File Structure

Previously, employers used an ASCII text file to report employee data to the NHRS. ERS requires an XML file layout. XML (Extensible Markup Language) defines universal standards for communication between computing systems. All NHRS employers have the ability to work with XML because its file structure is independent of hardware and software requirements.

An XML file has a defined format that must be followed in preparing the member data for transmittal to NHRS. The following table describes some ways in which the XML format is different from that of an ASCII text file:

	ASCII File	XML File
File structure	Flat	Hierarchical
Record structure	One record per line	Tiered
Field design	Limited to field data	Descriptive

The hierarchy of the XML file required by the NHRS for ERS reporting consists of five levels: Transmittal, Batch, Member, Address/Phone/PayPeriod, and Contribution. In the terminology of XML, these levels are referred to as *elements*. All of the data fields to be reported are contained within these elements. The file layout document in Appendix B shows the file hierarchy, including each element and the data to be reported under each element.

As further described in Section 3.3 of this manual, the XML file to be transmitted will contain named elements organized into a nested hierarchy. An element consists of an opening tag, some data, and a closing tag. A *tag* is an element name preceded by a less-than symbol (<) and followed by a greater-than symbol (>). For any given element, the name of the opening tag must match that of the closing tag. A closing tag is identical to an opening tag except that the less-than symbol (<) is immediately followed by a forward slash (/). Tag names are case sensitive.

Here is an example of how the opening and closing tags for the Transmittal element will appear in the XML file to be used for employer reporting:

<Transmittal>
(The rest of the file will be included between the opening and closing tags of the Transmittal element, including the Batch, Member, Address/Phone/PayPeriod, and Contribution elements, as well as all the fields under these elements.)
</Transmittal>

Each element included within the Transmittal element contains the data fields to be reported to NHRS. In XML, these data fields are called **attributes**. An attribute consists of a name and a value. The attribute name and an equal sign (=) precede each attribute's value. The attribute's value, obtained from your payroll or HR system, must be enclosed within quotation marks ("). For example, if you were reporting a member's pensionable salary for the pay period, it would be formatted as follows:

PensionableSalary="**3000**"

The following example shows how address data would be reported under the Address element. Notice that, since there are no additional elements under the Address element, the opening and closing tags are combined: <Address is the beginning of the tag and /> is the end of the tag. Also notice that any attribute with no data to be reported contains empty quotation marks ("") in place of a value.

<Address AddressEffectiveDate="**2001-01-01**" AddressType="**HOME**" AddressLine1="**123 Elm Street**" AddressLine2="" City="**Concord**" State="**NH**" Zip="**03301**" MailStop="" County="**Merrimack**" Country="**USA**" />

3.1.3   Validation

When a file is submitted to NHRS in the format required for the old system, validation is conducted manually to ensure that the header record looks correct, that the correct number of detail records is listed, and that the file has the proper name. With the ERS, the validation process begins at your site, prior to submitting the file via your preferred filing method. NHRS has provided a validation program (available on the NHRS web-site) that allows you to verify the format of the file. Instructions to conduct this procedure are included in Section 7.1, XML File Validations.

After you submit the file, the ERS will scan the file and perform further validation. You will have access to the validation results within 24 hours of file submission via the

notification process. You will be notified by email or an alternative method if your file has been rejected and needs to be corrected.

Possible causes for a rejected file include incorrect formatting of XML data and invalid reporting of member data. Appendix D contains a listing of file exceptions, which would require correction before your wage and contribution report can be posted. Appendix F contains information on file validation and a listing of messages that may be returned following the validation process; this listing includes error messages and codes.

3.2 Field Explanation of Reported Data

The table below lists all data fields that will or can be reported in the XML file. This table is broken down into sections based on the type of data being requested. For example, the portion of the table titled "ERS Batch Information" includes information at the employer level (header), versus the employee level (detail). These table sections, or file elements, were discussed briefly in Section 3.1.2 of this manual, which describes the hierarchy of the XML file. They will be discussed further in Section 3.3, New Wage and Contribution File Format. To the right of each field name is a brief definition of what the field contains.

ERS BATCH INFORMATION

Field	
Batch ID	Batch ID provided to employer for scheduled batches, not needed for unscheduled batches or demographic batches. The Batch IDs for all scheduled batches are provided under your employer log-in on the web-based portion of the ERS via the Reporting and Voucher Number report. Please refer to the *ERS Employer User Manual* for instructions on how to obtain this number.
Fund ID	PensionGold Fund ID number. This will always be 1 for NHRS.
Employer ID	PensionGold Employer ID. This value will be assigned by NHRS and passed on to each individual employer.
Batch Type	Indication whether batch is part of the normal schedule, an unscheduled batch (intermittent payroll, etc.) or simply a batch to be used to update demographics. Typically this will be a scheduled batch.
Fiscal Year	Four digit fiscal year representing the **NHRS** fiscal year. This field is used for Employer Receivable Account Management and for any fiscal year annual contribution limits that may be in place.
Report Date	Date report is being submitted
Report From Date	Reporting period begin date. If multiple pay periods are reported within a single batch this date should match the earliest one. For example: if two pay periods are being reported in this batch, January 1-January 15 and January 16-January 31, this field would be populated with 2003-01-01
Report To Date	Reporting period end date. If multiple pay periods are reported within a single batch this date should match the latest one. For example: if two pay periods are being

Field	Description
	reported in this batch, January 1-January 15 and January 16-January 31, this field would be populated with 2003-01-31
Member Record Count	Number of member records being submitted. This number is validated against the count of member records included in the file.
Total Pensionable Salary	Total pensionable salary being reported. This field is used to validate against the sum of pensionable salary reported for all member records on the file.
Total SPC Payments	Total of all payments in the file that are for Service Purchase Contracts. When the file is uploaded this amount is validated against the sum of all member records.

ERS MEMBER RECORD INFORMATION

Field	Description
SSN	Member Social Security Number
First Name	Member first name
Middle Name	Member middle name
Last Name	Member last name
Gender	Code table designation for Male or Female. Required only for new members.
Birth Date	Date the member was born. Required only for new members.
Marital Status	Code table designation for marital status: married, divorced, domestic partner, single, separated, unknown, widowed.
Entry Date	Date on which member began fund membership (with first NHRS affiliated employer). Required only for a new member; cannot be used to update for an existing member.
Employment Date	Date member began original employment with first NHRS affiliated employer. Required only for a new member; cannot be used to update for an existing member.
Is New Member	New member identification. Indication that this is the first time the member is being reported as an NHRS member by any NHRS affiliated employer.
Email	Member email address.

ERS MEMBER ADDRESS INFORMATION

Field	Description
Address Effective Date	The date this address became effective. The Pay Period Begin date (first time reported) is a typical value.
Address Type	Code table for address type: home, mailing, etc.

Field	Description
Address Line 1	First address line
Address Line 2	Second address line
City	City name
State	State mailing abbreviation
Zip	Postal zip code
Mail Stop	Additional mailing information
County	County
Country	Code table for country (USA, etc.). Please contact the fund if other values (besides USA) are needed.

ERS MEMBER TELEPHONE INFORMATION

Field	Description
Phone Type	Code table for phone type (cellular, fax, home, etc)
Country Code	Country number = 1 (USA)
Area Code	Area code
Phone Number	Phone number. This can include the area code if the employer's database does not segregate area code from phone number.
Extension	Phone extension number

ERS MEMBER RECORD PAY PERIOD INFORMATION

Field	
Pay Period ID	Employer assigned Pay Period ID number (8th pay period of fiscal year, for example). Data not specific to NHRS, for employer reference only and can be duplicated.
Begin Date	Date Pay Period began. For example: an employer may report multiple pay periods in the member's record, such as January 1-15 and January 16-31. In this case, there would be two pay period records in the file. The first record would require this field to be populated with January 1, and the second with January 16.
End Date	Date Pay Period ended. For example: an employer may report multiple pay periods in the member's record, such as January 1-15 and January 16-31. In this case, there would be two pay period records in the file. The first record would require this field to be populated with January 15, and the second with January 31.
Pay Date	The check date for this pay period. For example: If the pay period ends January 15, but the payment is not issued to the employee until the 17th, this field would be populated with 2003-01-17.

Action	This code describes the action being included in this pay period. Options include *Normal*, *Replacement* or *Adjustment*. Normal is defined as a typical pay period record. Replacement can be defined as a pay period record that is being reported to replace a previously submitted pay period record that was found to be incorrect. An adjustment could be a retro payment given to the member for this pay period. An adjustment will add to or subtract from the original submission.
SPC Payment	Member payment for Service Purchase Contract. If multiple contracts exist for this member, the value will represent the total of all payments for the period being reported.
Earnable Salary	Annual salary amount on which contributions are due. *This amount may change between pay periods if the member's wage rate changes.*
Gross Salary	Pay period gross salary amount (may include salary upon which contributions are not allowed: car allowances, etc.)
Pensionable Salary	Pay Period salary amount upon which contributions are calculated.
Units Worked	For NHRS this will always be 1. The ERS requires this field; NHRS requests that it be populated with a 1 because a custom calculation is used by NHRS to get the actual units worked.
Units Worked Indicator	For NHRS this will always be Monthly (MON). This field relates to the Units Worked field above. It indicates whether the units worked represent hours, days or, in the NHRS case, months.
Employment Type	This field defines the employment arrangement in which the member participates. NHRS types include Fulltime 10 month, which includes members who work full time and are paid over a 10 month period; Fulltime 12 month, which includes members who work fulltime and are paid over a 12 month period; Job Share 10 month, which includes members who job share and are paid over a 10 month period; Job Share 12 month, which includes members who job share and are paid over a 12 month period.
Employment Type Effective Date	Date the current employment type became effective

Job Class	This designation will be used to determine member plan participation. Valid values are: Employee - State (ES) Employee - Political Subdivision (EPS), Teacher - State (TS), Teacher - Political Subdivision (TPS), Police - State (PS), Police - Political Subdivision (PPS), Fire - State (FS), Fire - Political Subdivision (FPS),
Job Class Effective Date	Date the Job Class became effective
Pay Status	This designates the member's pay status for the pay period. Status is: Active, Inactive, or On-Leave.
Pay Status Effective Date	Date the Pay Status became effective

ERS PAY PERIOD CONTRIBUTION INFORMATION

Field	Description
Contribution Type	Code table for contribution type (employee current, additional annuity contributions, and service purchase credit contributions)
PreTax Amount	Amount of contributions paid from pre-tax dollars
PostTax Amount	Amount of contributions paid from after tax dollars

3.3 New Wage and Contribution File Format

As described previously, the file format that is required by ERS is XML. Appendix A provides an example of the XML file structure required. Appendix B provides a hierarchical representation of the file as one might see it if opened with an XML reader.

Each element of the XML file is described in the sections to follow. A good way to understand the hierarchy of the XML file is to compare it to the structure of the following sections of the manual.

3.3.1   Transmittal Level
      3.3.1.1 Batch Level
           3.3.1.1.1 Member Level
               3.3.1.1.1.1 Address
               3.3.1.1.1.2 Phone
               3.3.1.1.1.3 PayPeriod
                    3.3.1.1.1.3.1 Contribution Level

The section below shows how each of the elements is displayed in an XML reader. If the data is copied into a new document in Word, Notepad, or another text editor and saved with the XML extension, the file can be opened in Internet Explorer as an XML file:

```
<Transmittal>
        <Batch BatchAttributes=" ">
                <Member MemberAttributes=" ">
                        <Address AddressAttributes=" "/>
                        <Phone PhoneAttributes=" "/>
                        <PayPeriod PayPeriodAttributes=" ">
                                <Contribution ContributionAttributes=" "/>
                        </PayPeriod>
                </Member>
        </Batch>
</Transmittal>
```

The information in this section and in the following sections can be viewed within the schema in Appendix C. The schema also contains fields that are not currently being used by ERS; these unused fields can be omitted from the XML file sent to NHRS. (Please note that the data values listed in the following tables are in upper case. You must use upper case when reporting these values in your XML data file.)

3.3.1 Transmittal Level

This is the highest level, or the "root," of the XML file. The transmittal element marks the beginning of the file and the end of the file. There will only be one transmittal element per file, and it will appear in the file as follows:

Beginning of File:
<Transmittal>

End of File:
</Transmittal>

3.3.1.1 Batch Level

This element contains employer specific data including summary totals of member data fields. There can be multiple batch elements within one transmittal element. A third party agency that reports for several employers would prepare a file with multiple batch elements. Each employer would have a batch element within the same transmittal. At the beginning and end of each batch element, the following tags should be included, respectively:

<Batch (batch attribute names and values) >
</Batch>

Included under this element are the following attributes (fields) and the schematics for each:

XML Name	Data Type	Max Field Length	Required	Allowed Data Codes or Format
BatchID	Integer	10	Yes for a scheduled batch	The valid number for each month is obtained from the ERS website. If this is a DEMO or UNSCH batch, the BatchID should be "0".
FundID	Integer	10	Yes	1
EmployerID	String	30	Yes	The valid entry for this field is the ID assigned by NHRS.
BatchType	String	5	Yes	SCHED=scheduled; UNSCH=unscheduled; DEMO=demographic
FiscalYear	Integer	4 (Max and Min)	Yes	2004 (for pay dates on or after July 1, 2003); 2005 (for

XML Name	Data Type	Max Field Length	Required	Allowed Data Codes or Format
				pay dates on or after July 1, 2004); etc.
ReportDate	Date		Yes	YYYY-MM-DD
ReportFromDate	Date		Yes	YYYY-MM-DD
ReportToDate	Date		Yes	YYYY-MM-DD
MemberRecord Count	Integer	10	Yes	
TotalPensionable Salary	Decimal	11 total, 2 decimal	Yes	999999999.99
TotalSPCPayments	Decimal	11 total, 2 decimal	Yes	999999999.99

Please note: The NHRS fiscal year begins on July 1. Only one fiscal year can be reported in a batch. If the pay dates that you are reporting span two NHRS fiscal years, you must prepare separate batches for each fiscal year.

3.3.1.1.1 Member Level

The member element includes data related to a single member. This element will be repeated for each member record included in the report. Each member record has child records for address, phone and pay period. Each of these elements is defined in a subsequent section.

At the beginning and end of the member element, the following tags should be included, respectively:

<Member (member attribute names and values)>
</Member>

Included under this element are the following attributes (fields) and the schematics for each. (Note that "new member", in the 'Required' column, refers to a member that is new to NHRS participation, not to a member that is new to the current employer.):

XML Name	Data Type	Max Field Length	Required	Allowed Data Codes or Format
SSN	String	15 (Minimum 9)	Yes	999999999 or 999-99-9999
FirstName	String	25	Yes	Upper Case
MiddleName	String	25	No	Upper Case
LastName	String	25	Yes	Upper Case, including suffix such as JR., SR., III

Gender	String	1	Yes for a new member	M=Male; F=Female; U=Unknown
BirthDate	Date		Yes for a new member	Format YYYY-MM-DD
MaritalStatus	String	5	No	M=Married; D=Divorced; S=Single; SEP=Separated; W=Widowed; U=Unknown; DOMST=Domestic Partner
EntryDate	Date		Yes for a new member	Format YYYY-MM-DD
EmploymentDate	Date		Yes for a new member	Format YYYY-MM-DD
IsNewMember	String	1	Yes for a new member	T, F
Email	String	50	No	

3.3.1.1.1.1 Address

The address element is a child of the member element. Only one address can be designated for each member. The address element begins with <Address and closes with />.

Included under this element are the following attributes (fields) and the schematics for each. (In the Schema file, Appendix C, AddressLine3 is listed. This field is not being used by NHRS; therefore, it is not listed below):

XML Name	Data Type	Max Field Length	Required	Allowed Data Codes or Format
AddressEffective Date	Date		Yes	Format: YYYY-MM-DD
AddressType	String	5	Yes	SUM=Summer; AME=Active Member Inquiries; BILL=Billing; BUS=Business; CHEC=Check; CH=Clearing House; COMP=Company; CORR=Correspondence; HOME=Home; MAIL=Mailing; MAIN=Main; OTHE=Other; PI=Payee Inquiries; PERS=Personal; POST=Post Office Box; PRIM=Primary; 2ND=Second Address; VAC=Vacation Address; VI=Vendor Inquiries; WINT=Winter; WORK=Work; SEM=Seminar
AddressLine1	String	30	Yes	
AddressLine2	String	30	No	
City	String	30	Yes	
State	String	2	Yes	
Zip	String	9	Yes	
MailStop	String	10	No	
County	String	20	No	

Country	String	5	Yes	USA

3.3.1.1.1.2 Phone

Like the address element, the phone element is a child of the member element. Two phone elements can be designated for each member. The Phone Type is used to differentiate between the two numbers provided. The phone element begins with <Phone and closes with /> for each phone type.

Included under this element are the following attributes (fields) and the schematics for each:

XML Name	Data Type	Max Field Length	Required	Allowed Data Codes or Format
PhoneType	String	5	Yes	CELLU=cellular; FAX=fax number; HOME=home; MPH=main phone; WORK=work or office; SEM=seminar phone
CountryCode	String	5	Yes	International calling code. 1 = USA
AreaCode	String	3	Yes	
PhoneNumber	String	15	Yes	
Extension	String	5	No	

3.3.1.1.1.3 PayPeriod

The payperiod element is also a child of the member element and contains the pay period record for that member. The PayPeriodID is determined by the employer. Each pay period is further defined by the pay period dates. A pay period date cannot be duplicated unless a correcting entry is being made and noted as such in the Action field. The pay period element has a child, the contribution element.

Pay period data must be submitted, for each member, as individual pay period records. The following two illustrations should clarify this:

The method illustrated below is acceptable:

An employer is reporting for January, which covers two bi-weekly pay periods. The employer must submit a file for January that has two pay period records for each member: one for the first period and another for the second, all within the same Batch.

The method illustrated below is NOT acceptable:

An employer is reporting for January, which covers two bi-weekly pay periods. An employer may not submit a file for January that has, for each member, a single "pay period" record representing the aggregate of the two "actual" pay periods.

At the beginning and end of the pay period element, the following tags should be included, respectively:

<PayPeriod (pay period attribute names and values)>
</PayPeriod>

Included under this element are the following attributes (fields) and the schematics for each. (In the Schema file, Appendix C, PlanID, Department, DepartmentEffectiveDate, Division, DivisionEffectiveDate, JobTitle, JobTitleEffectiveDate, BargainingUnit, BargainingUnitEffectiveDate, PayGrade, PayGradeEffectiveDate, PayGradeAmount, VacationBalance, CompensationBalance, SickBalance, and HolidayBalance are listed under the payperiod element. These fields are not being used by NHRS; therefore, they are not listed below):

XML Name	Data Type	Max Field Length	Required	Allowed Data Codes or Format
PayPeriodID	Integer	10	Yes	Normally 1 – 12 or 1 – 27
BeginDate	Date		Yes	YYYY-MM-DD
EndDate	Date		Yes	YYYY-MM-DD
PayDate	Date		Yes	YYYY-MM-DD
Action	String	1	Yes	N=normal, R=replacement, A=adjustment
SPCPayment	Decimal	9 total, 2 decimal	No	9999999.99
EarnableSalary	Decimal	9 total, 2 decimal	No	9999999.99
GrossSalary	Decimal	9 total, 2 decimal	No	9999999.99
PensionableSalary	Decimal	9 total, 2 decimal	No	9999999.99
UnitsWorked	Decimal	9 total, 2 decimal	Yes	1
UnitsWorked Indicator	String	5	Yes	MON=Monthly
EmploymentType	String	5	Yes	FT12=Full-time 12 months; FT10=Full-time 10 months; JS12=job share 12 months; JS10=job share 10 months; PT=part-time

XML Name	Data Type	Max Field Length	Required	Allowed Data Codes or Format
EmploymentType EffectiveDate	Date		Yes	YYYY-MM-DD
JobClass	String	5	Yes	ES=Employee State; EPS=Employee Political Subdivision; TS=Teacher State; TPS=Teacher Political Subdivision; PS=Police State; PPS=Police Political Subdivision; FS=Fire State; FPS=Fire Political Subdivision
JobClassEffective Date	Date		Yes	YYYY-MM-DD
PayStatus	String	5	No	ACTIV=Active; INACT=Inactive; L= On-leave
PayStatusEffective Date	Date		No	YYYY-MM-DD

3.3.1.1.1.3.1 Contribution Level

The contribution element is a child of the pay period element and includes attributes for employee contributions to the plan. More than one contribution type can be reported within a pay period. The contribution element begins with <Contribution and closes with />.

Included under this element are the following attributes (fields) and the schematics for each. (In the Schema file, Appendix C, OffsetAmount is listed under the contribution element. This field is not being used by NHRS; therefore, it is not listed below):

XML Name	Data Type	Max Field Length	Required	Allowed Data Codes or Format
ContributionType	String	5	Yes	CURR=Current; ADDAN=Additional Annuity
PreTaxAmount	Decimal	9 total, 2 decimal	Yes	9999999.99
PostTaxAmount	Decimal	9 total, 2 decimal	Yes	9999999.99

4. Methods of Building File

Your accounting/payroll system or HR system may not directly support the creation of an XML file. There are products available that convert a delimited text file (which your system may support) into an XML file. Also, features exist within Microsoft Excel (XP) and Microsoft Access (2000 and XP) for creating XML files. Another software product you might consider is XML Spy, which includes tools to convert files to XML. A 30-day evaluation copy of the XML Spy software can be downloaded from www.altova.com.

A report writer, such as Crystal Reports, may be another option for creating the XML file. For many payroll applications, this method may be a more feasible option. Some required data will be static, such as CountryCode=″1″. This type of data can easily be set up in Crystal Reports. Other required data, at the batch level, may not be available directly from the employer's accounting system; these data include calculated fields based on the member detail or NHRS specific fields, such as Batch ID, which could be set up as run time objects, requested when the report is executed.

NHRS is interested in the methods that you will employ to extract the data and would appreciate any recommendations that could be passed on to other employers who wish to report via XML.

Please call the NHRS Help Desk at 271-3351, ext. 285, to offer suggestions or comments.

5. Common Reporting Situations

The system previously used by the NHRS allowed employers to report via a paper report completed manually, via a report run from the employer payroll package, or via a file extracted from the employer payroll system and submitted electronically. The ERS (Employer Reporting System) will support reporting via an XML file extracted from the employer's payroll system or will allow the employer to report using web-based forms.

One of the advantages of the ERS is the ability to track additional information on members and to more accurately maintain this information over the life of the member. As evident in the list of fields required for ERS, there are a number of additional fields the system will be tracking. The maintenance of these fields within the current (old) system, for the most part, has been conducted manually. Changes to this information have been initiated through a series of forms and letters. While some forms will still be required, use of the ERS will minimize the number of these forms and, moreover, will allow the user to update employee contact and employment information electronically. Electronic input will reduce duplication of data both by the employer and by NHRS.

5.1 Member Demographic Changes

ERS allows address information to be changed within the assigned batches. The field AddressEffectiveDate is used to indicate to the system when the new address will take effect.

5.1.1 Demographic Batches

Member demographic information can be updated in scheduled batches, and, in addition, a special demographic batch, which contains only updated member address and phone information, can be submitted. In a demographic batch, the BatchID field is left blank or null. The BatchType field is filled with "Demo", indicating a demographic batch. This batch should not include PayPeriod or Contribution elements. A demographic batch can be submitted at any time.

Most employers may never utilize a demographic batch. However, employers who verify employee addresses on an annual basis, for example, may find it convenient to submit demographic batches following updates of their payroll systems. The submission procedures for a demographic batch are identical to those for a scheduled batch.

5.2 Pay Period Adjustments

The XML data specification used by the ERS provides employers with the ability to make adjustments to previous pay periods. However, to make these changes, the data specification requires certain responses. If your payroll system does not allow reporting of the required responses, you may use the web-based reporting screens to report these adjustments. Here are two circumstances that might require a pay period adjustment:

- *A member was over or under paid*. This situation can occur for a number of reasons, including the start day for a new hire was recorded incorrectly or a wage adjustment or change was made incorrectly.
- *An employee's contribution was reported incorrectly.* Too much or too little of the employee's elected contribution was withheld.

Pay period reporting adjustments can be specified with two different action codes. As described in Section **3.3.1.1.1.3** of this manual, each pay period record listed for the member is required to have an associated Action code. The assigned codes are "N" for normal, "R" for replacing, and "A" for adjusting. ("N" is the code associated with pay periods that are being submitted for the first time.)

A replacing pay period record, designated with an Action code of "R", will replace all previously submitted pay period records within the same date range for the associated member. An adjusting pay period record, designated with an Action code of "A", can be used to make negative or positive adjustments to pay period records.

The adjustment or replacement must be reported in an unscheduled batch. The BatchID field will be left blank or null, and the BatchType field will be populated with "UNSCH". The pay period being changed should be identified in the Action field as either "R" (replacing) or "A" (adjusting). As in a scheduled batch, all required fields must be filled.

5.2.1 Pay Period Adjustment Examples

Replacing Entry

A state police officer and member of NHRS received a wage increase from $1000 to $1200 per pay period as of January 16, 2003. This employee is paid semi-monthly (the 15th and the last day of the month). The wage increase should have been included in wages for the check issued on January 31st. Unfortunately, due to oversight at the employer, the wage increase was not recorded in the payroll system. The record for this pay period appeared as follows:

PayPeriodID:	**2**
Begin Date:	01/16/03
End Date:	01/31/03
Pay Date:	01/31/03
Action:	N (Normal)
Earnable Salary:	$24,000 (Annual salary for which contributions are due.)
Gross Salary:	$1,000
Pensionable Salary	$1,000

As part of the monthly procedure at this employer, following the final pay period of the month, an XML file is submitted to NHRS. The pay period record for this member, for the period 01/16/03 to 01/31/03, is shown below in the XML format.

```
<PayPeriod PayPeriodID="2" BeginDate="2003-01-16"
    EndDate="2003-01-31" PayDate="2003-01-31"
    Action="N" SPCPayment="0" EarnableSalary="24000"
    GrossSalary="1000" PensionableSalary="1000"
    UnitsWorked="1" UnitsWorkedIndicator="MON"
    EmploymentType="FT12"
    EmploymentTypeEffectiveDate="2002-01-01"
    JobClass="PS" JobClassEffectiveDate="2002-01-01">
    <Contribution ContributionType="CURR"
      PreTaxAmount="105.00" PostTaxAmount="0.00" />
</PayPeriod>
```

After the NHRS member received his check, it was evident that the check did not include the agreed upon raise. When the issue was addressed with the payroll clerk, the previously issued check was voided and a new check was issued. The new pay period record included the following details:

PayPeriodID:	**2**
Begin Date:	01/16/03 *(When submitting a replacing or adjusting record to NHRS, the beginning and ending dates are crucial. These dates are*

used by the ERS to determine which pay period to replace or adjust. If these dates do not match a previously reported pay period, and the action code is "R", an exception will be issued by the ERS.)

End Date: 01/31/03
Pay Date: 02/15/03 **(The date of the adjustment or replacement)**
Action: R (Replacing)
Earnable Salary: $28,800
Gross Salary: $1,200
Pensionable Salary $1,200

This pay period <u>replacement</u> record must be reported in an unscheduled batch; the BatchType should contain "UNSCH". As this is a 'replacing' record, the previously submitted 'normal' record for this pay period will be reversed in the ERS. The XML pay period record would be as follows:

```
<PayPeriod PayPeriodID="2" BeginDate="2003-01-16"
    EndDate="2003-01-31" PayDate="2003-02-15"
    Action="R" SPCPayment="0" EarnableSalary="28800"
    GrossSalary="1200" PensionableSalary="1200"
    UnitsWorked="1" UnitsWorkedIndicator="MON"
    EmploymentType="FT12"
    EmploymentTypeEffectiveDate="2002-01-01"
    JobClass="PS" JobClassEffectiveDate="2002-01-01">
    <Contribution ContributionType="CURR"
        PreTaxAmount="126.00" PostTaxAmount="0.00" />
</PayPeriod>
```

Note: A pay period's contribution record also can be replaced with this method.

Adjusting Entry

A state police officer and member of NHRS was scheduled to receive a $200 per pay period wage increase as of February 1, 2003. This employee is paid semi-monthly (the 15th and the last day of the month). The wage increase was to be included in wages for the check issued on February 15th. The payroll clerk incorrectly issued the raise beginning on the 1st of January. For both January pay periods the incorrect amount was paid. The pay period records included the following information:

Pay Period 1		Pay Period 2	
Begin Date	01/01/03	**Begin Date**	01/16/03
End Date	01/15/03	**End Date**	01/31/03
Pay Date	01/15/03	**Pay Date**	01/31/03
Action	N (normal)	**Action**	N (normal)
Earnable Salary	$28,800	**Earnable Salary**	$28,800

Gross Salary	$1,200	Gross Salary	$1,200
Pensionable Salary	$1,200	Pensionable Salary	$1,200

In February, following the employer's submission of the XML file to NHRS, the inaccuracies were discovered. In this case, the employer's payroll system has the ability to correct data from a past pay period. The adjusting entry is as follows:

Pay Period 1		Pay Period 2	
Begin Date	01/01/03	Begin Date	01/16/03
End Date	01/15/03	End Date	01/31/03
Pay Date*	02/15/03	Pay Date*	2/15/03
Action	A (adjusting)	Action	A (adjusting)
Earnable Salary	-$4,800	Earnable Salary	-$4,800
Gross Salary	-$200	Gross Salary	-$200
Pensionable Salary	-$200	Pensionable Salary	-$200

*date on which the adjustment or replacement is made

This pay period <u>adjustment</u> must be reported in an unscheduled batch; the BatchType should contain "UNSCH". The XML pay period records would be as follows:

```
<PayPeriod PayPeriodID="1" BeginDate="2003-01-01"
    EndDate="2003-01-15" PayDate="2003-02-15"
    Action="A" SPCPayment="0" EarnableSalary="-4800"
    GrossSalary="-200" PensionableSalary="-200"
    UnitsWorked="1" UnitsWorkedIndicator="MON"
    EmploymentType="FT12"
    EmploymentTypeEffectiveDate="2002-01-01"
    JobClass="PS" JobClassEffectiveDate="2002-01-01">
    <Contribution ContributionType="CURR"
      PreTaxAmount="-21.00" PostTaxAmount="0.00" />
</PayPeriod>
<PayPeriod PayPeriodID="2" BeginDate="2003-01-16"
    EndDate="2003-01-31" PayDate="2003-02-15"
    Action="A" SPCPayment="0" EarnableSalary="-4800"
    GrossSalary="-200" PensionableSalary="-200"
    UnitsWorked="1" UnitsWorkedIndicator="MON"
    EmploymentType="FT12"
    EmploymentTypeEffectiveDate="2002-01-01"
    JobClass="PS" JobClassEffectiveDate="2002-01-01">
    <Contribution ContributionType="CURR"
      PreTaxAmount="-21.00" PostTaxAmount="0.00" />
</PayPeriod>
```

Note: A pay period's contribution record also can be adjusted with this method. If you are adjusting salary only, not contributions, the contribution fields should equal zero so as not to add or subtract from what was originally reported*.*

6. Reporting Standards

6.1 Reporting Frequency

The XML data files for each month's wage and contribution reports (the scheduled batch) are due by the 15th of the following month, in accordance with NHRS Administrative Rule 303.01.

6.2 Reporting Methods

Employers may submit XML data files using one of the following three methods:

* 3.5 diskette and CD—Submit all disk media containing XML data files to:

  NHRS – Attn: Data Prep.
  4 Chenell Drive
  Concord, NH 03301

* Email—Submit all email containing attached XML data files to:
  dataprep@nhrs.state.nh.us

* FTP—File Transfer Protocol—Transfer XML data files directly onto the NHRS server. Instructions will be provided for using this method to submit data files.

6.3 File Naming

To be determined following additional research.

7. Wage and Contribution Reporting Validation

7.1 XML File Validations

Every employer who reports wage and contribution data using an XML file will be provided with a set of software tools to assist with the process of creating a file that is ready for acceptance into the new Employer Reporting System without errors and correctly formatted.

Among the tools that will be available is an XML schema file. An XML schema is a structure that specifies information about the elements and attributes of a corresponding XML data file. For example, the schema may specify which data fields are required; the data types of fields, such as 'date' or 'decimal'; and the content to be allowed in the fields. The schema file can then be used to validate the contents of a data file, such as the XML file to be used in reporting wage and contribution data to the NHRS. Appendix E provides information about formatting data fields for the XML data file that will be sent to the NHRS.

Employers will have access to electronic copies of the XML schema file, NHRS_File_Schma.xsd, and the XML validation tool, XMLSchemaVerification.exe. An electronic copy of a correctly formatted sample file also will be available. Thus, every employer using an XML file for wage and contribution reporting will be able to test the process of XML file validation by practicing with sample data prior to the creation of the actual employer specific XML data file.

After creating your XML data file, you will verify the correctness of the file by running the validation tool. To begin the verification process you will select the schema file, select the newly created data file, and then choose the 'validate' option. The process will verify that the XML data file has been created correctly. If the file contains errors, the validation tool will report them one at a time along with an explanation of the error. You will be able to correct each error and run the process as many times as needed to achieve a valid file. (Appendix F illustrates the process of verifying a data file). Eventually, when you are satisfied that the file you have created is error free, you will submit the file to the NHRS.

7.1.1 Batch Level Validation

When the file is received at the NHRS, it is run through a process that checks the data in the file at the batch level. If invalid data are found at this level, the file will be rejected. A list of error conditions and a description for each is provided below:

Error Condition	Description
Invalid Fund ID	The fund ID number in the batch element of the file is invalid. Since the fund cannot be identified by fund ID, notification of this exception will be sent to the fund's notification handler.
Invalid Batch Type	There is a mismatch between the batch type and the batch id. If the batch type is UNSCH or DEMO, the batch id should be 0 prior to RSVP processing; the system will assign a batch id.
Invalid Employer ID	The employer ID number in the batch element of the file is invalid. Since the employer cannot be identified by employer ID, notification of this exception will be sent to the fund's notification handler.
No Batch Record Found	The batch ID is not recognized by the system as associated with a scheduled batch for this employer.
Processed	The batch file has already been processed by ERS.
Inactive	The scheduled batch has a status of Inactive in ERS.
Out of Window	The batch file has been sent for processing outside the early reporting window (i.e., the period of time before the due date when it is permissible to send a reporting file for the reporting period).
Out of Order	The employer has sent batch files out of order, as determined by the batch ID and due date.
Out of Balance	The reporting file is out of balance in one of these three areas: number of members reported, earnable salary total, or service purchase payment total.
Required Data Missing	The batch file is missing data required for a reporting file. See the XML Schema for a listing of required fields.

Refer to the User Guide (separate from this document) for steps to take to resolve these errors.

7.2 Record Level Validation

In section 3 of this manual the XML file format is given and possible field values are listed. Record level validation goes one step further, by validating field to field. For example, if the street address is provided, the city, state and zip must also be provided. The wage and contribution reports that are sent to the NHRS will undergo a series of validations to ensure that the data are correct. Any time a record does not pass these validations, the ERS will provide employers with the appropriate errors. Employers are responsible for correcting and re-submitting the data. Records that do not pass these validations will not be posted. The following are the areas for which all records will be validated.

A listing of validation errors by code number is included in Appendix D.

ERS BATCH INFORMATION

Field	Validations
BatchID	1. The Batch ID is matched with the *Employer ID* to verify that the Batch ID is valid for the employer. 2. The Batch ID is validated with the *ReportToDate* to ensure that the date corresponds with the batch reporting period. 3. Null value allowed if BatchType="UNSCH" or "DEMO"
FundID	Always must be 1.
EmployerID	See Batch ID.
BatchType	If this is a scheduled batch, this field is validated against *BatchID,* as it would be required.
FiscalYear	Must be a fiscal year which is still accepting reports.
ReportDate	
ReportFromDate	1. Validated against reporting period designated for the *BatchID.* 2. Validated against earliest date reported on member records in *BeginDate.*
ReportToDate	1. Validated against reporting period designated for the *BatchID.* 2. Validated against latest date reported on member records in *EndDate.*
MemberRecordCount	Validated against member count in file.
TotalPensionableSalary	Validated against the sum total of all *PensionableSalary* reported for each pay period for each member.
TotalSPCPayments	Validated against the sum total of *SPCPayment* reported for each pay period for each member.

ERS MEMBER RECORD INFORMATION

Field	Validations
SSN	Validated against name.
FirstName	Validated against what was previously reported for last name and SSN.
MiddleName	
LastName	
Gender	Required if *IsNewMember* is "T".
BirthDate	Required if *IsNewMember* is "T".
MaritalStatus	

Field	Validations
EntryDate	Required if *IsNewMember* is "T".
EmploymentDate	Required if *IsNewMember* is "T".
IsNewMember	
Email	

ERS MEMBER RECORD ADDRESS INFORMATION

Field	Validations
AddressEffectiveDate	
AddressType	
AddressLine1	
AddressLine2	
City	
State	
Zip	
MailStop	
County	
Country	

ERS MEMBER RECORD ADDRESS INFORMATION

Field	Validations	Associated Error
PhoneType		
CountryCode		
AreaCode		
PhoneNumber		
Extension		

ERS MEMBER RECORD PAY PERIOD INFORMATION

Field	Validations	Associated Error
PayPeriodID		
BeginDate	See *ReportFromDate*.	
EndDate	See *ReportToDate*.	
PayDate		
Action		
SPCPayment		
EarnableSalary		
GrossSalary		
PensionableSalary	Must be less than *GrossSalary*.	
UnitsWorked		
UnitsWorkedIndicator		
EmploymentType		
EmploymentTypeEffective Date		
JobClass		
JobClassEffectiveDate		
PayStatus		
PayStatusEffectiveDate		
ContributionType		
PreTaxAmount		
PostTaxAmount		

Appendix A—Sample File

```xml
<?xml version="1.0" encoding="UTF-8" ?>
- <!--
 edited with XML Spy v3.5 NT (http://www.xmlspy.com) by Myersdo (Levi Ray and Shoup)
  -->
- <!--
Sample XML file generated by XML Spy v4.1 U (http://www.xmlspy.com)
  -->
- <Transmittal>
  - <Batch FundID="001" BatchID="535" EmployerID="011-1230"
      BatchType="SCHED" FiscalYear="2002" ReportDate="2002-02-15"
      ReportFromDate="2002-01-01" ReportToDate="2002-01-31"
      MemberRecordCount="2" TotalPensionableSalary="6000.00"
      TotalSPCPayments="0">
    - <Member SSN="125644111" FirstName="Mark" MiddleName="C"
        LastName="Newman" Gender="M" BirthDate="1967-08-13"
        MaritalStatus="M" EntryDate="2002-01-01"
        EmploymentDate="2002-01-01" IsNewMember="T" Email="">
        <Address AddressEffectiveDate="2002-01-01"
          AddressType="HOME" AddressLine1="123 Elm Street"
          AddressLine2="" City="Ashland" State="NH"
          Zip="35111" MailStop="" County="" Country="USA" />
        <Phone PhoneType="HOME" CountryCode=""
          AreaCode="123" PhoneNumber="1233333" Extension=""
          />
        <Phone PhoneType="MPH" CountryCode="" AreaCode="123"
          PhoneNumber="123-1234" Extension="123" />
      - <PayPeriod PayPeriodID="1" BeginDate="2002-01-01"
          EndDate="2002-01-31" PayDate="2002-01-31"
          Action="N" SPCPayment="0" EarnableSalary="36000"
          GrossSalary="3000" PensionableSalary="3000"
          UnitsWorked="1" UnitsWorkedIndicator="MON"
          EmploymentType="FT10"
          EmploymentTypeEffectiveDate="2002-01-01"
          JobClass="1" JobClassEffectiveDate="2002-01-01">
          <Contribution ContributionType="CURR"
            PreTaxAmount="105.00" PostTaxAmount="0.00" />
        </PayPeriod>
      </Member>
    - <Member SSN="164551488" FirstName="John" MiddleName="H"
        LastName="Newman" Gender="M" BirthDate="1967-09-13"
        MaritalStatus="M" EntryDate="2002-01-01"
        EmploymentDate="2002-01-01" IsNewMember="T" Email="">
        <Address AddressEffectiveDate="2002-01-01"
          AddressType="HOME" AddressLine1="124 Elm Street"
          AddressLine2="" City="Ashland" State="NH"
          Zip="36511" MailStop="" County="" Country="USA" />
        <Phone PhoneType="HOME" CountryCode=""
          AreaCode="512" PhoneNumber="1251115" Extension=""
          />
```

Annotations: Batch element attributes · beginning of data element · Attribute name with equal sign · Attribute value extracted from Employer's data

Appendix A—Sample File

```
- <PayPeriod PayPeriodID="1" BeginDate="2002-01-01"
    EndDate="2002-01-31" PayDate="2002-01-31"
    Action="N" SPCPayment="0" EarnableSalary="36000"
    GrossSalary="3000" PensionableSalary="3000"
    UnitsWorked="1" UnitsWorkedIndicator="MON"
    EmploymentType="FT10"
    EmploymentTypeEffectiveDate="2002-01-01"
    JobClass="1" JobClassEffectiveDate="2002-01-01">
    <Contribution ContributionType="CURR"
       PreTaxAmount="105" PostTaxAmount="0.00" />
    <Contribution ContributionType="ADDAN"
       PreTaxAmount="34.2" PostTaxAmount="0.00" />
  </PayPeriod>
 </Member>
</Batch>
</Transmittal>
```

```
XML
    = version   1.0
    = encoding  UTF-8
<!-- Comment edited with XML Spy v4.1 U (http://www.xmlspy.com) by Mark Shiffer (LRS)
Transmittal
    = xmlns:xsi http://www.w3.org/2001/XMLSchema-instance
    Batch
        = BatchID                Integer ID provided to employer for scheduled batches, should be left as 0 for unscheduled batches.
        = FundID                 Integer ID provided to the employer.
        = EmployerID             char(30) provided to the employer by fund.
        = BatchType              Char code see schema for values.
        = FiscalYear             4-digit Year
        = ReportDate             The date the report is created.  Date in form: YYYY-MM-DD
        = ReportFromDate         The beginning of the 1st regular pay period in the batch.  Date in form: YYYY-MM-DD
        = ReportToDate           The ending of the last regular pay period in the batch.Date in form: YYYY-MM-DD
        = MemberRecordCount      Number of member records.  Integer used for balancing.
        = TotalPensionableSalary Decimal(11,2) used for balancing.
        = TotalSPCPayments       Decimal(11,2) used for balancing.
        Member
            = SSN                Char(15) Social Security Number
            = FirstName          Char(25)
            = MiddleName         Char(25)
            = LastName           Char(25)
            = Gender             Char code, see schema for code values.
            = BirthDate          Date in form: YYYY-MM-DD
            = MaritalStatus      Char code, see schema for code values.
            = EntryDate          Date in form: YYYY-MM-DD
            = EmploymentDate     Date in form: YYYY-MM-DD
            = IsNewMember        T or F to indicate the first time a member is being reported to the fund.
            = Email              Char(50)
            Address
                = AddressType    Char code, see schema for code values.  Only 1 address record allowed.
                = AddressLine1   Char(30)
                = AddressLine2   Char(30)
                = AddressLine3   Char(30) FOR FUTURE USE
                = City           Char(30)
                = State          Char(2)
                = Zip            Char(9)
                = MailStop       Char(10)
                = County         Char(20)
                = Country        Char code, see schema for code values.
            Phone
                = PhoneType      Char code, see schema for code values.  Only 2 phone records allowed.
                = CountryCode    Char code, see schema for code values.
                = AreaCode       Char(3)
                = PhoneNumber    Char(15)
                = Extension      Char(5)
            PayPeriod
                = PlanID                    Integer ID for employer's plan which member is participating under. OPTIONAL
                = PayPeriodID               Integer ID for employer assigned pay period.
                = BeginDate                 Date in form: YYYY-MM-DD
                = EndDate                   Date in form: YYYY-MM-DD
                = PayDate                   Date in form: YYYY-MM-DD
                = Action                    Char code, see schema for code values.
                = SPCPayment                Decimal(9,2) for service purchase payment amount. Only one payment amount reported per payperiod.
                = EarnableSalary            Decimal(9,2)
                = GrossSalary               Decimal(9,2)
                = PensionableSalary         Decimal(9,2)  Used to compute contributions.
                = UnitsWorked               Decimal(6,2) for number of days or hours for which service credit will be granted.
                = UnitsWorkedIndicator      Char code, see schema for code values.
                = EmploymentType            Char code, see schema for code values.
                = EmploymentTypeEffectiveDate Date in form: YYYY-MM-DD.
                = Department                Char code, see schema for code values.
                = DepartmentEffectiveDate   Date in form: YYYY-MM-DD.
                = Division                  Char code, see schema for code values.
                = DivisionEffectiveDate     Date in form: YYYY-MM-DD.
                = JobClass                  Char code, see schema for code values.
                = JobClassEffectiveDate     Date in form: YYYY-MM-DD.
                = JobTitle                  Char code, see schema for code values.
                = JobTitleEffectiveDate     Date in form: YYYY-MM-DD.
                = BargainingUnit            Char code, see schema for code values.
                = BargainingUnitEffectiveDate Date in form: YYYY-MM-DD.
                = PayGrade                  Char code, see schema for code values.
                = PayGradeEffectiveDate     Date in form: YYYY-MM-DD.
                = PayGradeAmount            Decimal(9,2).
                = PayStatus                 Char code, see schema for code values.
                = PayStatusEffectiveDate    Date in form: YYYY-MM-DD.
                = VacationBalance           Decimal(8,4)
                = CompensationBalance       Decimal(8,4)
                = SickBalance               Decimal(8,4)
                = HolidayBalance            Decimal(8,4)
                Contribution
                    = ContributionType  Char code, see schema
                                        for code values.
                    = PreTaxAmount      Decimal(9,2)
                    = PostTaxAmount     Decimal(9,2)
                    = OffsetAmount      Decimal(9,2)
```

The XML Spy screen shot shown above is provided for illustrative purposes only and may not accurately reflect in all aspects the schema described in this document or the schema that has been provided to you as an example file.

Appendix C

```xml
<?xml <?xml version="1.0" encoding="UTF-8"?>
<!--

     State of New Hampshire Retirement System
     IT Manager
     4 Chenell Drive
     Concord, NH 03301-8509
     603.271.3351

     Employer Wage & Contribution Reporting System
     PGERS XML Schema File
     Version 1.2
     02/09/2003

-->
<!-- edited with XML Spy v4.1 U (http://www.xmlspy.com) by
Levi, Ray, & Shoup Inc. (http://www.lrs.com)-->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
elementFormDefault="qualified">
     <xs:element name="Transmittal">
          <xs:complexType>
               <xs:sequence>
                    <xs:element name="Batch"
type="BatchType" maxOccurs="unbounded"/>
               </xs:sequence>
          </xs:complexType>
     </xs:element>
     <xs:complexType name="BatchType">
          <xs:sequence>
               <xs:element name="Member" type="MemberType"
maxOccurs="unbounded"/>
          </xs:sequence>
          <xs:attribute name="BatchID" use="required">
               <xs:simpleType>
                    <xs:restriction base="xs:integer">
                         <xs:maxInclusive
value="2147483647"/>
                    </xs:restriction>
               </xs:simpleType>
          </xs:attribute>
          <xs:attribute name="FundID" use="required">
               <xs:simpleType>
                    <xs:restriction base="xs:integer">
                         <xs:maxInclusive
value="2147483647"/>
                    </xs:restriction>
               </xs:simpleType>
```

```
            </xs:attribute>
            <xs:attribute name="EmployerID" use="required">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="30"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="BatchType" use="required">
                <xs:simpleType>
                    <xs:restriction base="xs:string">
                        <xs:maxLength value="5"/>
                        <xs:enumeration value="SCHED"/>
                        <xs:enumeration value="UNSCH"/>
                        <xs:enumeration value="DEMO"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="FiscalYear" use="required">
                <xs:simpleType>
                    <xs:restriction base="xs:integer">
                        <xs:minInclusive value="1000"/>
                        <xs:maxInclusive value="9999"/>
                        <xs:totalDigits value="4"/>
                        <xs:fractionDigits value="0"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="ReportDate" type="xs:date"
use="required"/>
            <xs:attribute name="ReportFromDate"
type="xs:date" use="required"/>
            <xs:attribute name="ReportToDate" type="xs:date"
use="required"/>
            <xs:attribute name="MemberRecordCount"
use="required">
                <xs:simpleType>
                    <xs:restriction base="xs:integer">
                        <xs:maxExclusive
value="2147483647"/>
                    </xs:restriction>
                </xs:simpleType>
            </xs:attribute>
            <xs:attribute name="TotalPensionableSalary"
use="required">
                <xs:simpleType>
                    <xs:restriction base="xs:decimal">
```

```
                    <xs:fractionDigits value="2"/>
                    <xs:totalDigits value="11"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:attribute name="TotalSPCPayments"
use="required">
            <xs:simpleType>
                <xs:restriction base="xs:decimal">
                    <xs:fractionDigits value="2"/>
                    <xs:totalDigits value="11"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
    </xs:complexType>
    <xs:complexType name="MemberType">
        <xs:sequence>
            <xs:element name="Address"
type="AddressType" minOccurs="0"/>
            <xs:element name="Phone" type="PhoneType"
minOccurs="0" maxOccurs="2"/>
            <xs:element name="PayPeriod"
type="PayPeriodType" minOccurs="0" maxOccurs="unbounded"/>
        </xs:sequence>
        <xs:attribute name="SSN" use="required">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:minLength value="9"/>
                    <xs:maxLength value="15"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:attribute name="FirstName" use="required">
            <xs:simpleType>
                <xs:restriction base="xs:string">
                    <xs:maxLength value="25"/>
                </xs:restriction>
            </xs:simpleType>
        </xs:attribute>
        <xs:attribute name="MiddleName" use="optional">
            <xs:simpleType>
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Employer Reporting System

File Exceptions and Descriptions

When a file does not pass the edit checks, an exception record is generated that specifies the record that cannot be posted. The exception indicates the reason why the record was rejected. Exceptions must be corrected and re-edited before the record in question can be posted.

In the table below, The Code column refers to the error code that is generated by the system when an exception occurs. The Description column gives a brief description of the exception. The User Hints column includes more detailed information about the exception. This information may include what the exception means, what reporting field the error applies to, what is expected by the system, and how the user may solve the problem.

Refer to the User Guide (separate from this document) for steps to take to resolve these errors.

Exceptions Listing		
Code	**Descripti**	**User Hints**
1	Required data are missing.	The system will indicate from which field the information is missing. To correct the exception, supply the required data via the Web Correction Screen.
2		No longer used.
3	The SSN does not belong to a member.	This exception indicates that the SSN does not exist in the database as belonging to a member. It could mean the member is a new member and the SSN is correct, but the New Member indicator is not checked. The user should update the New Member indicator to True by ensuring that the indicator is checked. If the member is not a new member, then the user needs to verify the member's SSN. If it has been reported correctly on the Batch, the employer should notify NHRS to resolve the discrepancy by correcting the member's record. If it was not correctly reported, the user should correct the SSN field in the reporting file.
4	The SSN does not belong to a member in this fund.	This exception indicates that the member has been reported in another fund. If the member should not be in the fund for the reported Batch, the member record should be deleted from the reporting file. If the member is new to the fund, then mark the New Member indicator to "T" by ensuring that the indicator is checked.

5	Member is archived.	This exception indicates that the member has not been active with the fund for such a long period of time that NHRS has archived the member's record. The user should verify that the SSN has been reported correctly. If so, the user will need to notify NHRS so that the member's account can be updated to a status of active. If the SSN was reported incorrectly, the user should correct the SSN.
6	Member's status is deceased.	This exception alerts the user that information is being reported for a member whose status the fund has recorded as deceased. The user should verify the member has been correctly reported. The system will not accept earnings "earned" after the date of death, so the user needs to ensure proper pay period information has been provided. If the user determines the member is not deceased, the user should contact NHRS immediately. If the SSN has been reported incorrectly, the SSN should be corrected.
7	Member's status indicates a possible rehire or recalc.	This exception notifies the user that data have been reported for a member who has a current status = Inactive, Terminated or Deferred Vested. If the data pertain to earnings earned prior to the member's separation date, then the user simply needs to mark the member as corrected. The system will not generate a second exception. However, if the earnings are for a period subsequent to the member's separation date, then the user will also get an exception that a valid employed member record was not found. The user will have to contact NHRS to correct the member's dates of employment before the record can be posted.
8	Member's status indicates a possible return to work following receipt of a benefit or recalc.	This exception is generated to alert the user that data have been reported for a member with a status = Disabled, Retired, Retired Paid Out. Same correction steps as above.
9	No matching participation rule found.	This exception alerts the user that a participation rule could not be found based on the employer, employment type, job class and employment dates reported for the member. The user needs to verify/correct these fields. If the record is complete and correct, the user will need to contact NHRS.

10	Member does not meet minimum service requirement for participation.	This exception alerts the user that there is a minimum service period that is required before the member can participate in the fund. The service is calculated from the date of employment through the pay period end date as reported on the batch using the time elapsed method. The user should verify the data have been reported correctly. If so, the member should be removed from the batch and reported when the member has accrued the necessary service. Otherwise the user should correct the data.
11	Member does not meet minimum age requirement for participation.	Same as above, but this rule applies to a minimum age that must be attained before the member can participate in the fund.
12		No longer used.
13		No longer used.
14	An employed member record was not found.	This exception indicates that the member's employment history does not include an employment period for the plan/employer combination reported. This could be generated when the member has returned to work following termination and the fund has not reactivated the member's account. The user should verify the correct pay period dates have been reported for the member. If not, make corrections; otherwise, contact NHRS to have the member's employment dates corrected.
15	Pay period begin date must be prior to pay period end date.	The user should correct the pay period dates.
16	Member's balance is negative.	Negative amounts are not accepted in any of the time balance fields for a member. This exception typically occurs in reference to reported member compensation, vacation, sick, or holiday time. The user should simply report the correct amounts on the regular reporting record.
17	Negative amount on a record that is not an adjustment.	Negative amounts are not accepted on a "Normal" reporting record. If a negative amount needs to be reported, then the action field for that pay period record must = A for Adjustment. This exception typically occurs in reference to the Salary or Contribution fields.
18	Duplicate posted record exists.	This exception indicates the pay period being reported has already been posted for the member/employer/plan. The user should verify pay

		period dates. If the pay period dates are not correct, update them using the correct dates. If an adjustment or replacement record needs to be submitted for the pay period, the action field for the record needs to be R to replace or A to adjust.
19	Duplicate unposted record exists.	This exception indicates the pay period being reported has been reported a second time but not yet posted for the member/employer/plan. The user should verify pay period dates. If not correct, they should be corrected. The user may 'combine' the data in one record and delete the other record. If an adjustment or replacement record needs to be submitted for the pay period, the action field for the record needs to be R to replace or A to adjust.
20	Replacement record does not correspond to an existing record.	In order to submit a replacement record, an original record must exist. This exception is generated if the original record (i.e., one with the same member/plan/employer and pay period dates) does not exist. The user may need to correct the pay period dates or correct the action field.
21	Duplicate contribution type reported for same pay period.	This exception indicates the user has created multiple contribution records with the same contribution type for the same pay period. The user should delete one of the records, ensuring the other record is accurate.
22	Contributions are out of balance.	This exception indicates that the contributions reported for a particular contribution record do not equal what the system calculated to be due for the member. If the amount should be posted to the member's record anyway, then the ignore warnings indicator should be set to T and the exception will clear. If the employer does not have security to set the ignore warnings indicator, then the employer will need to contact NHRS. Otherwise, the contribution amount and/or pensionable salary should be corrected.
23	Single limit exceeded.	This exception indicates there is a maximum single contribution that can be reported for a given pay period. This alerts the user that the contribution amount reported exceeds the limit. The amount reported will need to be corrected by the user.
24	Annual limit exceeded.	This exception indicates there is a maximum annual contribution limit. This alerts the user that the amount reported for the pay period exceeds the limit. The user may need to contact NHRS to determine the maximum amount that can be reported for this pay period.

25	Annual limit will be exceeded when all contribution records are posted.	See above. This exception indicates that there are unposted contribution records that when posted will cause the contribution amount on this pay period to exceed the limit.
26	Mandatory contribution rules exist but no contribution record was found.	This exception indicates that there are mandatory contributions that should be reported. The user should add a contribution record of the type indicated. If the amount reported needs to be zero, see information on contributions out of balance, Exception Code 22.
27	Invalid contribution type has been reported.	This exception indicates a contribution type has been reported that is not applicable given the plan in which the member participates. The user should correct the reported contribution type.
28	Salary variance exceeded.	This exception indicates that the member's salary has exceeded the variance limit set by the fund. In other words, there is too great a difference between the last reported salary amount and the current one. The reported salary will need to be corrected so as not to exceed the limit or the ignore salary variance indicator will need to be set to T. NHRS determines whether the employer can set this indicator. The employer may need to contact NHRS to resolve whether the reported salary is correct.
29	Contracts are out of balance.	This exception indicates that the service purchase contract payment reported does not equal the amount expected. If the amount on the report is accurate, the user will need to contact NHRS to correct the expected payment. The system will not accept a payment amount not equal to total payments expected.
30	Service purchase contract payment received on an adjustment or replacement record.	Payments are only permitted on normal pay period records. If a payment amount needs to be corrected or has been collected retroactively, the employer will need to contact NHRS to get the payment recorded.
31	Negative service purchase payment reported.	If a service purchase contract payment amount needs to be corrected, the employer should contact NHRS. The system will not accept negative payment amounts.

32	Active service purchase contract payments do not exist and contract payments were reported.	The user needs to determine if a contract payment amount was correctly reported. If not, correct the amount, otherwise contact NHRS to have the service purchase contract activated.
33	Active service purchase contracts exist and no contract payment was reported.	If a payment was withheld and should be reported, correct the data. Otherwise, the ignore contracts indicator can be set to true to process the member's record without the payment. NHRS determines whether the employer can set the ignore contracts indicator. The employer may need to contact NHRS to correct this exception.
34	Invalid zip code	The user needs to correct the zip code field.
35	Invalid phone number.	The user needs to correct the phone number field.
36	Save to PensionGold failed.	Correction procedures are dependent on the error message listed. The employer will need to contact NHRS.
37	An adjustment record exists for this pay period, unable to process replacement record.	The system cannot process a replacement record for a pay period that has already been adjusted. If an adjustment needs to be made, the data should be submitted as an adjustment record with the action field = A.
38		No longer used.
39	ERS Member duplicated on this batch	The system has found this member on the edited batch more than one time. The user should delete one of the records, ensuring the other record is accurate.
40	No Salary Rules Found for Pay Period	No Average Salary Parameter records were found that apply to this member. To do the salary variance check, ERS needs to know which salary field (gross, pensionable, or earnable) to use. The employer will need to contact NHRS so the parameter can be defined.

XML File Tips & Tricks

Required Fields

Although additional fields may be included, the following fields are required:

Batch		BatchID
		For an unscheduled or demographic batch, use BatchID="0"
		FundID
		EmployerID
		BatchType
		FiscalYear
		ReportDate
		ReportFromDate
		ReportToDate
		MemberRecordCount
		TotalPensionableSalary (can be zero)
		TotalSPCPayments (can be zero)
	Member	SSN
		FirstName
		LastName
	Address Note: *Although an address is not required, if one is included, certain fields are required.*	AddressEffectiveDate
		AddressType
		AddresssLine1
		City
		State
		Zip
		Country
	Phone Note: *Although a phone is not required, certain fields are required if a phone is included.*	PhoneType
		AreaCode
		PhoneNumber
	PayPeriod*	PayPeriodID
		BeginDate
		EndDate
		PayDate
		Action *See details below.*
		UnitsWorked (can be zero)
		UnitsWorkedIndicator
		EmploymentType
		EmploymentTypeEffectiveDate
		JobClass
		JobClassEffectiveDate
	Contribution*	ContributionType
		PreTaxAmount (can be zero)
		PostTaxAmount (can be zero)

* A demographic file should not include Pay Period or Contributions.

Action details:

If Action is…	
N or R	The following values cannot be negative: • Salary • Units Worked • Contribution
A	The following values **may** be negative: • Salary • Units Worked • Contribution
R or A	SPC payment amount cannot be greater than 0
R	Pay period dates should match a record previously reported and posted.

Tags:

- Are case-sensitive
- Structured hierarchically:
  - Transmittal
    - Batch
      - Member
        - Address
        - Phone
        - Pay period
          - Contribution

When the child level tag exists, the parent level tag is expected. For example, if there is a member tag there must be a batch tag. If the record includes a contribution tag, there must be a pay period tag as well.

Address Tags: There cannot be more than one address tag per member.
Phone Tags: There cannot be more than two phone tags per member.

Code values:
Note: Specific code values are defined by NHRS. Refer to the tables in Section 3.3 to see the code values in the following lists.

- Lists checked:
  - Batch Type
  - Contribution Type
  - Gender
  - Marital Status
  - Is New Member
  - Action
  - Units Worked Indicator

- o Employment Type
- o Pay Status
- o Job Class
- o Phone Type
- o Address Type
- Are case-sensitive

Numeric values:

Dates:
- Enter in YYYY-MM-DD format, including dashes
- Must be numeric
- Must be a valid date

Social Security Number:
- Nine digits expected if no separator is included (123456789)
- Eleven digits expected if a separator is included (123-45-6789)
- Valid separators are
  - o Dashes (123-45-6789) or
  - o Slashes (123/45/6789).
- Separators will be removed.

Phone Numbers:
- Separators will be removed.
- A single member may have 1 or 2 phone records.

Appendix F
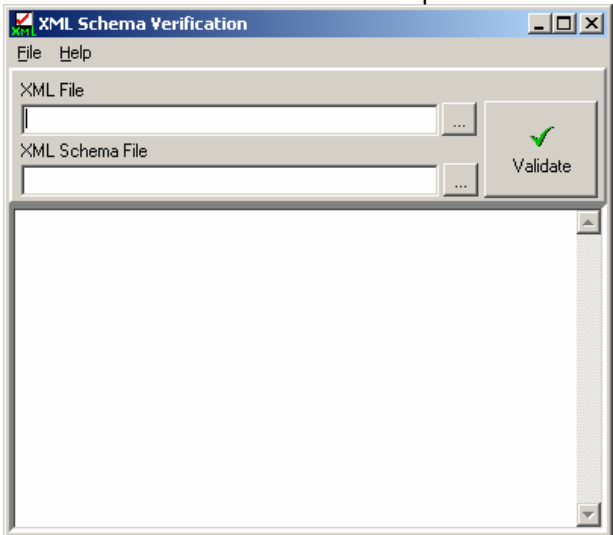
About the XML Schema Verification

The XML Schema Verification tool provides an automated and effective means to review the format of your system-generated XML files designed for employer reporting.   The XML files you generate for employer reporting must be formatted as schema dictate or they will not be accurately processed by your retirement fund.

This document includes:
- Validating your XML file format
- Understanding the validation results

Validating your XML file

Action	Result
1. Click the XML Schema Verification icon.	The XML Schema Verification tool opens:
2. Select the XML file to be reviewed.	To select the file, click the ellipse button to the right of the XML File field. You may browse the directory location where the XML source file resides.
3. Select the appropriate schema file.	Standard schema files were provided to you by NHRS for specific employer reporting requirements. To select the file, click the ellipse button to the right of the XML Schema File field. You may browse the directory location where the schema source file resides. Schema files are installed with your application in the same directory as the executable file. You will find them in the installation directory specified during the installation of the application.

Understanding the validation results

How it works…
As the selected XML file is reviewed for its compliance with the selected schema, records which pose potential problems will be reported in the error message field.

The utility stops once a problem is identified, thereby allowing you to correct the issue before continuing. Once you have corrected the issue, run the validate option again to review the entire file until results are successful.
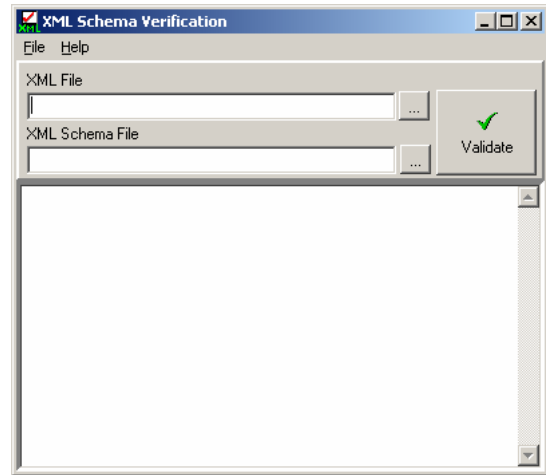
This tool will identify problems in the XML file such as:

- Missing tags, (i.e. beginning and end tags for batches, phone numbers, etc.)
- Missing fields, (i.e. fund or batch identification numbers.)
- Invalid values (code values not matching the predefined list or values containing unrecognized characters.)
- Tags out of order.

Appendix F

Understanding the message format

During the validation process, each result message contains the following components, generally in the following order:

File name and status
Error Code. Error Text.

Line: # Column: #
Last Node:

Example:

The XML File, Filename.XML, is INVALID.
XML Validation Error (-2147467259) - The element 'Batch' is used but not declared in the DTD/Schema.

Line: 1 Column: 245
Last Node: Unavailable

	Description
File	Provides the file name including the directory path of the scanned XML source file.
Status	Notes if the file is determined to be Invalid or Valid
Error Code	Provides an error code identifying the problem.
Error Text	Offers a text description of the issue with the record.
Line # Column #	Identifies the specific line and column of the record which resulted in the error.
Last Node:	Repeats the content of the last line in the record which was successfully reviewed by the tool.

Appendix F

Understanding the results
The following tables provides sample result messages, listed by error code, text and description.

Note that the following error definitions are examples and do not represent a comprehensive list of results.

Validation Successful:

Code	Error Text	Description
	The XML File, FILENAME.XML, is VALID.	The format of the indicated file matches the defined schema.

XML Validation Errors:

Code		Description
(-1072897661)	Enumeration constraint failed. The attribute: 'BatchType' has an invalid value according to its data type	Invalid Batch Type
(-2147467259)	Required attribute 'BatchType' is missing.	No Batch Type
(-1072897661)	The value of '' is invalid according to its data type. The attribute: 'FundID' has an invalid value according to its data type.	Invalid FundID (="")
(-2147467259)	Required attribute 'BatchID' is missing.	No BatchID (accepts numeric values, cannot be "")
(-1072897661)	The value of 'XXX' is invalid according to its data type. The attribute: 'FundID' has an invalid value according to its data type.	Invalid FundID (="XXX") (Accepts numeric values)
(-2147467259)	Required attribute 'EmployerID' is missing.	No Employer (accepts chars and "")
(-1072897661)	The value of '' is invalid according to its data type. The attribute: 'MemberRecordCount' has an invalid value according to its data type	Blank Member Count ("", " ", "X")
(-1072897661)	The value of '' is invalid according to its data type. The attribute: 'TotalPensionableSalary' has an invalid value according to its data type.	Invalid Tot Pen Salary and Tot SPC Payments ("", "X", accepts numeric)

Code	Error Text	Description
(-2147467259)	Required attribute 'TotalPensionableSalary' is missing.	No Tot Pen Salary and Tot SPC Payments
(-214746729)	Element content is invalid according to the DTD/Schema. Expecting: Member.	Contribution Out of Order